



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,291	08/31/2000	Gaurav Sharma	XER 2 0330 D/99421	4239

7590 06/26/2006

Albert P Sharpe III Esq  
Fay Sharpe Fagan Minnich & McKee LLP  
1100 Superior Avenue  
7th Floor  
Cleveland, OH 44114-2518

EXAMINER

LU, TOM Y

ART UNIT PAPER NUMBER

2624

DATE MAILED: 06/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/652,291	<b>Applicant(s)</b> SHARMA ET AL.	
	<b>Examiner</b> Tom Y. Lu	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-8, 12, 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-8, 12 and 17-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Response to Amendment***

1. Request for Continued Examination filed on 07/29/2004 has been entered.
2. Upon entry of Request for Continued Examination, the amendment filed on 10/12/2004 has been entered and considered.
3. Claims 1-5, 9-11 and 13-16 have been cancelled.
4. Claims 6, 12 and 17 have been amended.
5. Claims 6-8, 12 and 17-18 are pending.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 18 recites a limitation of “at least one of phase, frequency or angle shifting of halftone dot patterns”, which is inconsistent with its parent claim, claim 17, where only “a local frequency shift” is claimed. Please correct.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 6-8, 12 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tavernier et al (U.S. Patent No. 5,824,447) in view of Muir (U.S. Patent No. 5,202,772).

- a. Referring to Claim 6, Tavernier discloses printing a first image on a first side of the document in a first halftone pattern; and printing a second image on a second side of the document in a second halftone pattern (Tavernier at column 5, lines 40-60, teaches printing halftone images on the both side of a translucent substrate) present first and second images upon front-lit illumination respectively (natural paper characteristics, see explanation in paragraph 3 above), and wherein the first and second patterns are disposed to form a recognizable marking distinct (Tavernier at column 9, lines 25-26, teaches the halftone images on the both sides of the transparent substrate are screened at a different angle to create a visible moiré pattern, such moiré pattern corresponds the security feature Tavernier describes at column 5, lines 42-43, as a watermark) from the first and second images upon illumination from a show-through light source (Note the halftone images are printed on a transparent substrate. Therefore, in order to view the resulted moiré pattern a show-through light source is inherently required). However, Tavernier does not explicitly teach such angle shifting would have a frequency shift effect, which Muir discloses at column 3, lines 13-17. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to know a recognizable marking, such as a moiré pattern, is produced through a local frequency shift of the printed halftone dot. One of ordinary skill in the art would have been motivated to do this because angle shifting alters the

visibility of the moiré pattern by shifting the beat patterns from low frequency to high frequency as taught by Muir at column 3, lines 13-17. Please note the moiré pattern as taught by Muir is screened a different angle just like Tavernier, the statement of "this pattern is discernable by the human eye" is true only when the human eye is horizontally or vertically perceiving the pattern (Muir: column 3, lines 2-5). However, when the moiré pattern is perceived from side angles, the moiré pattern becomes perceivable.

- b. Referring to Claim 7, Tavernier teaches one of the halftone images is screened at different angle. By implying Muir's frequency shifting technique, such image is frequency shifted.
- c. Referring to Claim 8, Tavernier at column 9, line 26, teaches the recognizable marking is a moiré pattern.
- d. With regard to Claim 12, see explanation in Claim 6. The examiner interprets a visible moiré pattern as the claimed watermark.
- e. With regard to Claim 17, the only unaddressed limitation is "back-lit illumination". As it explains in Claim 1, an illumination light source is needed to view the moiré pattern. In addition, it is inherently known to put a light source behind the substrate in order to view the moiré pattern. With regarding to the limitation of "wherein the marking is not recognizable upon only front-lit illumination", Tavernier teaches it takes two halftone images to construct a moiré pattern. Therefore, the moiré pattern will not be visible when there is only one side of halftone image is viewed upon a front-lit illumination.

Art Unit: 2624

- f. With regard to Claim 18, Tavernier teaches angle shifting of halftone dot patterns, and Muir teaches frequency shifting.

*Conclusion*

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Y. Lu whose telephone number is (571) 272-7393. The examiner can normally be reached on 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TYL

JINGGE WU  
PRIMARY EXAMINER

